SCIENCE

FRIDAY, FEBRUARY 16, 1900.

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MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor, J. McKeen Cattell, Garrison-on-Hudson, N. Y.

THE VAN'T HOFF CELEBRATION.

A QUARTER of a century has passed since Van't Hoff obtained the degree of Doctor of Philosophy. This event was celebrated on December 22, 1899, in Rotterdam, by his students and a number of guests, including some of the leading men of science. An extra volume of the *Zeitschrift für physikalische Chemie*, containing investigations by those who, at some time, had worked with Van't Hoff, was published and presented to him on this occasion.

What does this mean; why has such an unusual tribute been paid to this comparatively young man?

There is nothing more inspiring to workers in the field of science, than the lives and works of those who are the leaders of modern science. Let us turn to the biographical sketch of Van't Hoff, by Ostwald, which serves as a preface to the 'Jubelband.'

Van't Hoff is the son of a Dutch physician, and was born in Rotterdam, August 30, 1852. He received his early training at a high school in his native city, and at seventeen entered the Polytechnic Institute in Delft. He then studied at Leiden, with Kekulé at Bonn, and with Würtz in Paris. He made the doctor's degree at the University of Utrecht, on the 22d of December, 1874. In 1876 he became docent at the veterinary school in Utrecht, and in 1877 was called to the University in Amsterdam. In 1894

BOOKS RECEIVED.

L'Année biologique. YVES DELAGE. Paris, Schleicher frères. 1899. Third year, 1896. Pp. xxxv + 841.

The Theory of Electrolytic Dissociation and some of its Applications. New York, The Macmillan Company. 1900. Pp. xii + 289. $1.60.

The Psychology of Religion. EDWIN DILLER STARBUCK, with a preface by WILLIAM JAMES. London, Walter Scott; New York, Charles Scribner's Sons. 1900. Pp. xx + 423.

SOCIETIES AND ACADEMIES.

NEW YORK ACADEMY OF SCIENCES.

SECTION OF BIOLOGY.

THE regular meeting was held on January 8, 1900, Professor F. S. Lee presiding.

Mr. David Griffiths spoke of the structure of certain species of the *Sordariaceæ* and briefly reviewed the work which has been done on the group. Certain species were taken as types of the principal genera, and their life history traced, *Sordaria finicola*, *Podospora coprophila*, *Hypocopra equorum* and *Sporormia intermedia* being spoken of especially. Some time was devoted to a discussion of the much mooted question of fertilization in this and kindred groups. The principal methods of spore distribution were outlined.

Dr. Wm. J. Gies reported upon the changes which may occur in lymph after the administration of protoplasmic poisons. Quinin did not interfere with the usual influence of dextrose although it did suppress the action of leech extract. The results with dextrose, therefore, indicate that the increase in the quantity of lymph following its injection in large quantity is due mainly to physical factors. In the case of leech extract, on the other hand, there is an interference with the action of the physiological factors that appear to be responsible for the changes usually brought about by this lymphagogue. That the increase in the amount of lymph after large quantities of dextrose have been injected is not due primarily to increased capillary pressure, as is held by Cohnstein and Starling, was shown in one of the experiments in which quinin caused the death of the animal, and yet from which the lymph continued to flow for three hours. After injecting arsenic, which is said to very greatly increase the permeability of the blood vessels, especially those of the portal system, there was little in the flow and character of the lymph resembling the usual effect of lymphagogues. It appears, therefore, that Starling's hypothesis of increased capillary permeability does not fully account for the action of lymphagogues, and that the mechanical theory of lymph formation fails as long as it does not explain the most striking phenomena of the process—those following the injection of Heidenhain's lymphagogues or Asher's 'liver stimulants.' The physiological theories of Heidenhain and Asher would explain them.

Professor Frederic S. Lee said that the duration of the life of voluntary muscle in mammals after the death of the individual has not been well known. Under the author's direction, Messrs. Adler and Bulkley have been investigating this in cats and rabbits. In each experiment the animal was killed, a particular muscle was excised and stimulated by electric shocks at five-minute intervals, and the resulting contractions were recorded. The muscles used were the *soleus* (deep red), and the *tibialis anticus* (pale). Each survived several hours, the maximum for the red muscle being 14 hours and 37 minutes, and for the pale, 12 hours and 20 minutes. It is known that, in comparison with white muscle-fibres, red fibres contain relatively more sarcoplasm, which is nutritive in function, and relatively less fibrillar substance, which is the contractile part. This may perhaps account for the longer survival of the red muscle. So far no constant difference in duration has been observed between the cat and the rabbit. In both the red and the pale muscle the decrease of irritability was gradual, but occasionally in the *tibialis* there was a sudden fall at the end of about one hour, the irritability then continuing at a low ebb for hours but with a gradual decline. The sudden fall may have been due to the early death of the white fibres, which intermingled with red ones, occur in the pale muscle. Besides the theoretic interest, the above results have a practical bearing, since they show that mammalian muscle can readily be used for experimental purposes in the physiological laboratory. This is now being done at Columbia University.

Professor Henry F. Osborn reported upon